

ARTICLE:

THE SINGAPORE ELECTRONIC TRANSACTIONS ACT AND THE HONG KONG ELECTRONIC TRANSACTIONS ORDINANCE

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Introduction

Today, electronic commerce needs no introduction. The speed of the development of on-line applications and the acceptance of electronic transactions coincided with the extraordinary expansion and widespread accessibility of the internet. However, this in turn poses new challenges to legal systems. With a view to addressing uncertainties over the application of existing laws to transactions in the electronic environment, Singapore introduced the Electronic Transactions Bill² in Parliament on 1 June 1998, and on 10 July 1998, the Electronic Transactions Act (ETA) was enacted into law.³ The Hong Kong experience is similar: the Hong Kong government introduced its bill before the Legislative Council on 14 July 1999,⁴ and by 5 January 2000, the Electronic Transactions Ordinance (ETO)⁵ became law. The fast passage of these laws before the Singapore and Hong

Kong legislatures was clearly motivated by the determination of these legislatures to rapidly establish legal regimes in these two jurisdictions so that the development of electronic commerce could be facilitated.⁶

Both the ETA and the ETO share the same parentage: the Utah Digital Signature Act 1995 (Utah Act),⁷ the world's first digital signature legislation, and the Model Law on Electronic Commerce 1996 (Model Law) adopted by United Nations Commission on International Trade Law.⁸ Both laws have been instrumental in the development of electronic commerce legislation worldwide, and in this regard, Singapore and Hong Kong are pioneers in the enactment of electronic commerce legislation. However, just as technology continues to make its inexorable progress, legal developments have also proceeded apace at the international level. On 23 November 2005, the United Nations General Assembly adopted the new UN

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² Electronic Transactions Bill 1998 (Bill No. 23/98).

³ Electronic Transactions Act (Cap 88, 1999 Rev Ed,

Sing.).

⁴ Richard Wu, 'Electronic Transactions Ordinance – Building a Legal Framework for E-commerce in Hong Kong', 2000 (1) *The Journal of Information, Law and Technology* (JILT), on-line at http://www2.warwick.ac.uk/fac/soc/law/elj/jilt/2000_1/wu.

⁵ Ordinance No. 1 of 2000 (H.K.).

⁶ *Building a Legal Framework for E-commerce in Hong Kong*; Minister for Trade and Industry (Mr Lee Yock Suan), *Second Reading of the Electronic Transactions Bill 1998*, Singapore Parliamentary Debates, Official Report (29 June 1998) volume 69 at column 252.

⁷ *The Utah Digital Signature Act*, Utah Code §§ 46-3-101 to 46-3-504, ch. 61 (1995), was repealed by the *Repeal of Utah Digital Signature Act S.B. 20*. The governor signed the Act on 10 March 2006.

⁸ *Building a Legal Framework for E-commerce in Hong Kong*; *Electronic Transactions Bill, Comparative Table*. Singapore was the first country in the world to base e-commerce legislation on the Model Law. The UNCITRAL Model Law on Electronic Commerce with Guide to Enactment (1996), is available on-line at http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html (UNCITRAL E-Commerce Model Law).

Convention on the Use of Electronic Communications in International Contracts (UNCITRAL Convention),⁹ and on 6 July 2006, China and Singapore became signatories to the UNCITRAL Convention.¹⁰ With the pressing need for the harmonization of national electronic commerce legislation, particularly with the advent of the UNCITRAL Convention, it is suggested that a review of the Singapore ETA and the Hong Kong ETO is now a matter of some urgency.¹¹ Any such review will also enable a careful consideration of the new issues brought about through the advent of new electronic transaction models.

This paper seeks to undertake such a preliminary review. The focus of the paper is on five broad areas: the scope of electronic transactions and their exclusions, the continued relevance of party autonomy, excluded matters under electronic transactions legislation, the tension between digital signatures and other forms of electronic signature, the relevance of public key infrastructure, and the management of new (and unresolved) issues in electronic transactions.

Scope of electronic transactions

The utility of any legislation lies in first demarcating the scope of its application. Both the ETA and ETO do not define what constitutes an 'electronic transaction' or even 'electronic commerce', and only defines an 'electronic record' as 'a record generated ... [by] an information system'.¹² On the other hand, the UNCITRAL Convention uses the term 'electronic communications',¹³ which is defined as an electronic '[communication in the form of] any statement, declaration, demand, notice or request, including an offer and the acceptance of an offer, that the parties are required to make or choose to make in connection with the formation or performance of a contract'.¹⁴ After defining what constitutes an electronic transaction or an electronic communication, the functional equivalence rules that equate electronic

transactions or communications with their traditional counterparts, then follow. So electronic records are to be equated with writing,¹⁵ electronic signatures with handwritten signatures¹⁶ and electronic records equated with physical records for presentation or retention of information.¹⁷

If these 'functional equivalence' rules appear to have direct application to contracts, this can be confirmed by referring to the genesis of the UNCITRAL Model Law and UNCITRAL Convention. The UNCITRAL instruments are intended to apply only to 'commercial activities'¹⁸ or 'the use of electronic communications in connection with the formation or performance of a contract between parties'.¹⁹ The reach of the ETA and ETO are much wider. In addition to dealing with contracting parties, the ETA and ETO may apply to non-contractual matters such as matters arising in property law, industrial action, transport and carriage of goods, agency, intellectual property, competition law and claims in tort and delict. The 'functional equivalence' rules in the ETA and ETO may apply to these matters. For instance, if a person forwards an e-mail with defamatory content, by section 7 of the ETA and section 5 of the ETO, the e-mail as an electronic record satisfies the legal requirement of 'writing' and constitutes libel rather than slander in defamation law. If a company signs an instrument of transfer of shares in the company with a digital signature, by section 8 of the ETA and section 6 of the ETO, a digital signature amounts to a valid certification by the company and constitutes a legal representation by the company that documents of title to the shares have been produced by the transferor to the company.²⁰

Electronic government²¹

In addition, both the ETA and ETO contain provisions dealing with the enablement and promotion of

⁹ UN Press Release, *General Assembly Adopts New Convention On Use Of Electronic Communications In International Contracting* GA/10424 L/3099 (23 November 2005), available on-line at <http://www.un.org/News/Press/docs/2005/ga10424.doc.htm>.

¹⁰ UN Press Release, *China, Singapore, Sri Lanka sign UN Convention on Use of Electronic Communications in International Contracts* L/T/4396 (6 July 2006), available on-line at <http://www.un.org/News/Press/docs/2006/lt4396.doc.htm>.

¹¹ The Information Technology and Broadcasting Bureau (ITBB) of Hong Kong conducted a review of the ETO in 2002, available on-line at [http://www.ogcio.gov.hk/eng/eto/download/ETOREview-Consultation\(E03\).pdf](http://www.ogcio.gov.hk/eng/eto/download/ETOREview-Consultation(E03).pdf), but it appears no such review has been conducted after China became a signatory to the UNCITRAL Convention. Similarly, a review predating the UNCITRAL Convention was conducted by the Singapore Infocommunications Development Authority in 2004, available on-line

at http://www.ida.gov.sg/doc/Policies%20and%20Regulation/Policies_and_Regulation_Level2/DA-AGC_electronic_contracting_issues/ETA_Review_-_An_Overview.pdf.

¹² ETO, s 2(1) (electronic record); ETA, s 2 (electronic record).

¹³ UNCITRAL Convention, Article 1.

¹⁴ Article 4(a) (communication).

¹⁵ ETA, ss 6, 7; ETO, s 5; UNCITRAL Convention, Articles 8, 9(2).

¹⁶ ETA, s 8; ETO, s 6; UNCITRAL Convention, Article 9(3).

¹⁷ ETA, s 9; ETO, ss 7, 8; UNCITRAL Convention, Article 9(4).

¹⁸ UNCITRAL E-Commerce Model Law, Article 1, at 3.

¹⁹ Article 1(1).

²⁰ Singapore Companies Act (Cap 50, 2006 Rev Ed), s 129; Hong Kong Companies Ordinance, s 69A.

²¹ In Singapore, under the three-year e-Government Action Plan II (eGAPII) launched in 2003, e-services have been provided to citizens and businesses, and a new S\$2 billion five-year

masterplan, called iGov2010, has been developed to guide Singapore's latest direction in e-Government: Infocommunications Development Authority of Singapore, *S\$2 Billion Masterplan on Integrating Government* (30 May 2006), available on-line at <http://www.ida.gov.sg/News%20and%20Events/20050704121154.aspx?getPagetype=20>; Infocommunications Development Authority of Singapore, 2006 Report on Singapore e-Government, available on-line at <http://www.igov.gov.sg/NR/rdonlyres/0D5EE595-4D44-4B02-948C-07FB18239313/0/2006ReportonSporeGov.pdf>. As for Hong Kong, developing electronic government is one of the five Key Result Areas (KRA) of the Information Technology Plan called '2001 Digital 21 Strategy – Hong Kong: Connecting the World' promulgated in May 2001 by the Hong Kong Special Administrative Region government: Electronic Government in Hong Kong, available on-line at <http://www.ibls.com/ibls-internet-law-doc.aspx?d=1489>.

electronic governance through government use of electronic records, electronic signatures, electronic filing and service of documents.²² However the approaches taken are very different. The ETA takes an inclusionary approach. Part XI of the ETA empowers any Singapore government department, ministry, organ of state or statutory corporation to accept electronic filings, issue electronic licences and make payments in electronic form.²³ Where it so elects,²⁴ each department, ministry, organ of state or statutory corporation may make rules or specify conditions for these purposes.²⁵ Because the ETA does not prescribe the form in which these rules or conditions may take, each department has taken a different approach to the implementation of electronic government, and it can sometimes be difficult to locate the relevant rules.²⁶

On the other hand, the ETO takes an exclusionary approach. Section 11 of the ETO empowers the Permanent Secretary to make regulations to exclude an Ordinance or a particular requirement or permission in the Ordinance or such a class of requirements or permissions from the ambit of the 'functional equivalence' rules in Part III of the ETO.²⁷ In this regard, the Electronic Transactions (Exclusion) Order was issued, which specifies in detail the various provisions and regulations in the Ordinances to which the ETO rules in relation to electronic writings, electronic signatures, electronic presentations and electronic records that do not apply.²⁸ A perusal of the Schedules to the (Exclusion) Order shows that the exclusions exist in relation to four general classes: election matters; matters relating to public property and infrastructure such as land, buildings, roads and railways; registration matters pertaining to marriages, births and deaths and matters relating to public health and safety such as food businesses, swimming pools, slaughterhouses, public cemeteries, lifts and medicines. The policy decision has been taken that any implementation via electronic

governance of these matters is undesirable or unnecessary for reasons of administration or policy. This has the effect of introducing a degree of certainty as to the areas that electronic governance does not apply.

The provisions in the ETO enabling the use of digitally signed government documents also promote the acceptance of electronic records and communications in the Hong Kong administration.²⁹ Regarding the scope and content of the administrative rules for the implementation of electronic governance, it is good to note that on 23 February 2007, the Hong Kong government published a Gazette Notice describing the manner and format of electronic records and transactions under the ETO that are acceptable for the different government departments.³⁰ By prescribing the acceptable standards and formats for electronic records and transactions, the Hong Kong government has greatly increased the transparency of its electronic government rules and also enhanced the interoperability and accessibility of its electronic government processes with both the private sector as well as with its citizens and residents.

Party autonomy

The principle of party autonomy underlies the rights and obligations of parties to a contractual relationship. Party autonomy is rightly the cornerstone of the UNCITRAL Model Law³¹ and the UNCITRAL Convention.³² However, as explained above, the ETA and ETO have application beyond the contractual context. Electronic communications outside the contractual context will have legal force and effect independent of consensus and the autonomy between parties to decide on their rights and obligations between themselves. These contexts may additionally initiate issues of public and social policy for which party autonomy has little relevance. This understanding is important when considering whether to adapt existing national

²² For instance, see *Electronic Transactions Bill, Explanatory Statement*; ETO, s 5A (service of documents).

²³ ETA, s 47.

²⁴ ETA, s 47(3) confirms that no department, ministry, organ of state or statutory corporation is required to accept or issue any document in the form of electronic records.

²⁵ ETA, s 47(2).

²⁶ For instance, see *Immigration and Checkpoints Authority, Submission of Application for Visa Electronically (SAVE)*, available on-line at <https://www.psi.gov.sg/NASApp/tmf/TMFServlet?app=SAVE-OVAL&isNew=true&Reload=true>; *Applying for Entry Visa: Common Questions – What are the requirements for the photograph image and file attachment?* available on-line at [http://www.ica.gov.sg/VETS/eservice_package/site/](http://www.ica.gov.sg/VETS/eservice_package/site/faq_social.html#two)

[faq_social.html#two](http://www.ica.gov.sg/VETS/eservice_package/site/faq_social.html#two), and *application for Permanent Residence*, available on-line at http://app.ica.gov.sg/serv_pr/per_res/app_for_pr.asp.

²⁷ ETO, ss 5 (requirements for writing), 6 (electronic signatures, digital signatures etc.), 7 (presentation or retention of information in its original form) and 8 (retention of information in electronic records).

²⁸ *Electronic Transactions (Exclusion) Order, Chapter 553B*.

²⁹ ETO, s 6(1A).

³⁰ G.N. 1270, available on-line at <http://www.ogcio.gov.hk/eng/eto/download/egn200711081270.pdf>.

³¹ UNCITRAL E-Commerce Model Law, at 31 paragraphs 44-45; UNCITRAL Model Law on Electronic Signatures with Guide to Enactment 2001, at 33 paragraphs 67, 111-112, 114 (UNCITRAL

E-Signatures Model Law).

³² UNCITRAL, *Report of the Working Group on Electronic Commerce on the work of its 44th session*, U.N. Doc. A/CN.9/571 (8 Nov 2004), at 19 paragraph 76, available on-line at <http://daccess-ods.un.org/access.nsf/Get?Open&JN=Vo458992> (UNCITRAL WG Report). See Charles H. Martin, 'The UNCITRAL Electronic Contracts Convention: Will It Be Used or Avoided?' *Pace International Law Review* XVII.11 (2005): 261-300, at 275-276, 289-290, available on-line at http://works.bepress.com/charles_martin/3 and UNCITRAL, *Report of the United Nations Commission on International Trade Law on the work of its thirty-eighth session, Annex 1*, U.N. Doc. A/60/17 (July 26, 2005), at 8 paragraph 33, available on-line at http://www.unctad.org/en/docs/a60d17_en.pdf.

electronic transaction legislation to the UNCITRAL convention provisions. As such, statements that ‘many of the rules in the [UNCITRAL] Convention are equally capable of application to domestic transactions, and even to non-contractual situations’³³ and ‘most of the Convention rules are capable of application to non-contractual transactions as well’³⁴ require close scrutiny. Unfortunately, the inclusionary approach to electronic government in the ETA seems to encourage such a carte blanche view, whereas the approach taken in the ETO seems more measured and studied.

It is in this context that the provisions in the ETA,³⁵ UNCITRAL Model Law³⁶ and UNCITRAL Convention³⁷ granting the parties autonomy from the provisions themselves – that is, the power to exclude the application of the provisions or derogate from or vary their effect – should be understood. The latter two international instruments deal exclusively with contractual matters that create rights and obligations between the parties, and UNCITRAL instruments such as the United Nations Sales Convention generally have a provision that recognizes party autonomy.³⁸ To the extent that the UNCITRAL instruments only deal with rules that ‘provide functional equivalence in order to meet general form requirements’,³⁹ there is no objection to recognizing party autonomy fully. However, where mandatory and policy rules apply, there should be little, if any, room for the parties to derogate from these rules.⁴⁰

It can be argued that the approach adopted in section 5 of the ETA – where party autonomy is ostensibly confined to the functional equivalence rules (as to contractual form) in Parts II and IV of the ETA⁴¹ – seeks to preserve the mandatory rules in the ETA from party autonomy. But this approach is not without difficulties. First, this approach can lead to some measure of dissociation. The other parts of the ETA, in particular, Parts V to X, deal with the recognition of secure electronic records and digital signatures (and the

setting up of a public key infrastructure necessary to make them work). Since party autonomy also implies the rights of the parties to vary the rules in the ETA,⁴² it is questionable whether parties can expressly derogate from these rules by way of contract. As digital signatures and secure electronic records are species of electronic signatures and electronic records, and parties may, by contract, prescribe their own rules giving recognition to some or particular types of electronic records and electronic signatures, arguably, section 5 of the ETA empowers parties to disregard, by way of contract, almost all the substantive provisions in the legislation itself.⁴³ This would clearly include the operative mandatory rules in the other Parts of the ETA (such as duties upon subscribers and certification authorities), a result that could hardly be intended by Parliament.⁴⁴ But reconciling party autonomy with the mandatory rules in the ETA can be achieved by explicitly identifying in the ETA certain rules as mandatory rules that cannot be overridden by party autonomy.

Second, and more importantly, not all the rules in Parts II and IV deal only with requirements as to form. For instance, the attribution rule in section 13 of the ETA (based on Article 13 of the Model Law) creates rules that not only deem a message as coming from an originator if it was sent by the originator, by the originator’s agent or by an information system programmed by or on behalf of the originator (section 13(1) and (2)), it would also entitle an addressee ‘to regard an electronic record as being that of the originator and to act on that assumption’ if certain other conditions are satisfied.⁴⁵ The first set of rules clearly comprises rules as to agency, but the second set of rules deviate from agency rules. This is clearly not a rule as to form. Thus, the UNCITRAL E-Commerce Model Law observes that an addressee is entitled to act on a data message after applying an agreed authentication procedure, even if it knew that the data message was not that of the originator.⁴⁶ But an originator is entitled to disavow a

³³ Chong Kah Wei and Joyce Chao Suling, ‘UN Convention on the Use of Electronic Communications in International Contracts – A New Global Standard’ (2006) 18 SAclJ 116, 134, available on-line at <http://www.sal.org.sg/digitalLibrary/Lists/SAL%20Journal/DispForm.aspx?ID=390> (subscription required).

³⁴ Chong Kah Wei and Joyce Chao Suling, ‘UN Convention on the Use of Electronic Communications in International Contracts – A New Global Standard’ at 146.

³⁵ ETA, s 5.

³⁶ UNCITRAL E-Commerce Model Law, Article 4.

³⁷ UNCITRAL Convention, Article 3.

³⁸ UNCITRAL WG Report, at 19 paragraph 74.

³⁹ UNCITRAL WG Report, at 19 paragraph 76.

⁴⁰ Daniel Seng and Yeo Tiong Min, Joint IDA-AGC Review of the Electronic Transactions Act – Stage

III: Remaining Issues – Submissions (17 August 2005), at 5-13 (discussing the correct approach towards the blanket exemption of network service providers from mandatory rules), available on-line at http://www.ida.gov.sg/doc/Policies%20and%20Regulation/Policies_and_Regulation_Level2/joint_review/ETA_Stage3_Law_Faculty_NUS.pdf.

⁴¹ ETA, s 5.

⁴² Chong Kah Wei and Joyce Chao Suling, ‘UN Convention on the Use of Electronic Communications in International Contracts – A New Global Standard’ at 158.

⁴³ Jeffrey Chan Wah Teck, ‘Legal Issues In E-Commerce And Electronic Contracting: The Singapore Position’, 8th Asian Law Association General Assembly 2003 (Workshop V Paper IV), available on-line at available at

http://www.aseanlawassociation.org/docs/ws_sing.pdf, where the learned author offered the opinion at page 242 that, ‘Parties to a contract are therefore at liberty to agree as between themselves to apply rules other than those set out in the ETA to determine their contractual intentions. This principle is repeated in many provisions in Part III of the ETA where the phrase ‘Unless otherwise agreed by the parties’ frequently appears. [See sections 11(1), 15(1), 15(2), 15(4)].’

⁴⁴ Singapore Interpretation Act (Cap 1, 2002 Rev Ed).

⁴⁵ ETA, s 13(3), (4) and (5); UNCITRAL E-Commerce Model Law, Article 13(3), (4) and (5).

⁴⁶ UNCITRAL E-Commerce Model Law, at 51 paragraph 89.

message once it was sent,⁴⁷ if the addressee knew or should have known, 'that the transmission resulted in any error in the data message as received'.⁴⁸ The treatment of this issue is clearly confusing, because issues as to the rights of parties between themselves are interceded with the corresponding interests in property, particularly rights of third parties arising from subcontracts or chain contracts. Commentaries to the UNCITRAL E-Commerce Model Law seem to take the view that Article 13 is substantive in nature (the Australian Report of the E-Commerce Expert Group to the Attorney General calls it a section that sets out 'risk allocation rules' that 'presumptively [allocate] the risk of loss arising from unauthorised or altered messages to the apparent originator rather than the addressee.').⁴⁹ Yet the UNCITRAL E-Commerce Model Law starts its commentary to Article 13 with the assertion that 'the purpose of article 13 is not to assign responsibility'.⁵⁰ It is noteworthy that countries such as Hong Kong have avoided the mess created by the second set of attribution rules based on Article 13 of the Model Law by simply not having these rules at all.⁵¹ Unfortunately, Singapore did not.

Parties can and do have the autonomy to allocate risks themselves. However, the issue of risk allocation is one that entails different issues in different contexts. In the banking sector, where there may be established legislation or industry codes that presumptively allocate risks as between banks and customers,⁵² to cede these carefully allocated risk allocation rules to parties under the rubric of 'party autonomy' may do more to harm the industry than the confidence in the industry that these existing rules have built up. The industry rules that operate in the context of different types of electronic transactions have to be observed, notwithstanding the party autonomy philosophy that is sought to be captured in the UNCITRAL instruments.⁵³ Perhaps, for the reason that the attribution rule is both a rule as to form and a substantive rule as to responsibility, references to such a rule have been dropped in the UNCITRAL Convention.⁵⁴

In contrast, the Hong Kong ETO adopts a different approach. Notably, the ETO does not have a general party autonomy provision.⁵⁵ In fact, the converse philosophy seems to prevail: where party autonomy will effect the operation of an Ordinance that has a particular requirement or permission as to traditional documents and records, the Ordinance generally prevails. Reference has been previously made to the Electronic Transactions (Exclusion) Order, enacted to exclude Ordinances or a class of documents from the operation of the functional equivalence rules. Court proceedings and judicial processes are likewise excluded, unless electronic documents and delivery are specifically enabled by rules of court and procedures.⁵⁶ And so are Ordinances that contain specific prescriptions for electronic records and signatures.⁵⁷ Where the Ordinance presumably does not fall into one of the earlier rules, the catch-all rule in section 15 provides that where an Ordinance requires or permits information to be given or a document to be served or presented, the person to whom the information is to be given or the person to whom the document is to be served or presented has to first give consent.⁵⁸ All these are clear attempts at preserving the mandatory policies behind Ordinances that prescribe traditional forms of information delivery (and at the point of their enactment, do not envisage electronic delivery). Of course, this in turn implies that consent must be individually sought, and sought in a piecemeal fashion, for a waiver by the recipient of his rights to traditional forms of information delivery under the Ordinances.

Excluded matters

Yet another class of matters exist which are completely excluded from the ambit of electronic transactions legislation. The approach here is that reliance cannot be made in certain categories of matters on the electronic transactions legislation, in particular, the functional rules, for the requirements of form such as writing, documents, signatures and records to be satisfied.⁵⁹ Various reasons have been offered for their exclusion,

⁴⁷ UNCITRAL E-Commerce Model Law, at 51 paragraph 90.

⁴⁸ ETA, s 13(6); UNCITRAL E-Commerce Model Law, Article 13(5).

⁴⁹ Report of the Electronic Commerce Experts Group to the Attorney-General, at paragraphs 2.13.10. and 4.1.13.

⁵⁰ UNCITRAL E-Commerce Model Law, at 49 paragraph 83.

⁵¹ ETO, s 18.

⁵² For instance, see the Australian Electronic Funds Transfer Code of Conduct, Clause 5 (unauthorised transactions) and Clause 6 (system or equipment malfunction); Hong Kong Monetary Authority, Supervisory Policy Manual: Supervision of E-

banking paragraph 5.1.2 (February 17, 2004) and HKMA Code of Banking Practice (December 2001), paragraph 40.1.

⁵³ UNCITRAL WG Report, at 19 paragraph 73.

⁵⁴ Chong Kah Wei and Joyce Chao Suling, 'UN Convention on the Use of Electronic Communications in International Contracts – A New Global Standard' at 139-140, explained, with reference to the UNCITRAL Working Group reports, that the reason for not having the rule was a lack of international consensus on the rule of attribution.

⁵⁵ ETO, s 17(1), which reads, 'For the avoidance of doubt, it is declared that in the context of the formation of contracts, unless otherwise agreed

by the parties, an offer and acceptance of an offer may in whole or in part be expressed by means of an electronic record.' However, this is not a general party autonomy provision – it only relates to contract formation.

⁵⁶ ETO, s 13.

⁵⁷ ETO, s 14.

⁵⁸ ETO, s 15(1), (2), (2A) and (4).

⁵⁹ IDA and AGC, Joint IDA-AGC Review of the Electronic Transactions Act - Stage II: Exclusions from ETA under Section 4 (June 2004), available on-line at http://www.agc.gov.sg/publications/docs/ETA_StageII_Exclusions_Section_4_2004.pdf, at 12 paragraph 2.1.3 (Joint IDA-AGC Review: Stage II).

with the primary reason being that electronic records and signatures are not yet a perfect substitute for physical documents.⁶⁰ Other reasons that are offered include the existence of detailed rules, including the need to observe certain formalities governing these matters, the absence of appropriate technology and processes to replace traditional processes for dealing with these matters, and the likelihood of technological obsolescence, especially where documents will be needed for a long time.⁶¹

In this regard, it would be wrong to conclude that because the UNCITRAL instruments have very narrow exclusions – in particular, the UNCITRAL Convention does not apply to contracts concluded for personal purposes, regulated transactions such as exchange

transactions, banking, foreign exchange and payment systems, and transfer of security rights and documents of title and carriage, the ETA and ETO should also be widely applicable and the exclusions should be narrowly confined.⁶² Again, to reiterate, the ambit of the ETA and ETO is not confined to agreements by consensus. If this reasoning were correct, there would be no reason why, for instance, the UNCITRAL Convention failed to exclude wills and trusts as personal instruments, and mortgages and charges as commercial instruments from its ambit.

Both the ETA and ETO exclude almost the same classes of matters from the application of the electronic transactions rules, as the following table illustrates:

Singapore Electronic Transactions Act ⁶³	Hong Kong Electronic Transactions Ordinance ⁶⁴
Creation or execution of a will	Creation, execution, variation, revocation, revival or rectification of a will, codicil or any other testamentary document
Negotiable instruments	Negotiable instruments
Creation, performance or enforcement of an indenture, declaration of trust or power of attorney with the exception of constructive and resulting trusts	Creation, execution, variation or revocation of a trust (other than resulting, implied or constructive trusts), a power of attorney
Contracts for the sale or other disposition of immovable property, or any interest in such property	Assignment, mortgage or legal charge within the meaning of the Conveyancing and Property Ordinance (Cap 219) or any other contract relating to or effecting the disposition of immovable property or an interest in immovable property
Conveyance of immovable property or transfer of any interest in immovable property	Deed, conveyance or other document or instrument in writing, judgments, and lis pendens referred to in the Land Registration Ordinance (Cap 128) by which any parcels of ground tenements or premises in Hong Kong may be affected Document effecting a floating charge referred to in section 2A of the Land Registration Ordinance (Cap 128)
Documents of title	Making, execution or making and execution of any instrument which is required to be stamped or endorsed under the Stamp Duty Ordinance (Cap 117) other than a contract note to which an agreement under section 5A of that Ordinance relates Government conditions of grant and Government leases Oaths and affidavits Statutory declarations Judgments (in addition to those referred to in section 6) or orders of court A warrant issued by a court or a magistrate

Table 1: Comparing the Excluded Matters in the Singapore ETA and Hong Kong ETO

⁶⁰ *Second Reading of the Electronic Transactions Bill 1998, Singapore Parliamentary Debates, Official Report (29 June 1998) volume 69 at column 254.*

⁶¹ *Joint IDA-AGC Review: Stage II, at 14 paragraph 2.2.2.*

⁶² Chong Kah Wei and Joyce Chao Suling, 'UN Convention on the Use of Electronic

Communications in International Contracts – A New Global Standard at 152, paragraph 89.

⁶³ ETA, s 4.

⁶⁴ ETO, s 3 read with Schedule 1.

A comparison of the ETA and ETO suggests that more care has gone into the ETO list of excluded subject matter. In particular, mortgages and charges would not fall within any of the excluded categories in the ETA, as they are not, on the face of it, 'contracts for the sale or other disposition of immovable property or any interest in such property'. Given the significance attached to physical documents relating to or evidencing transactions involving immovable property, this 'omission' in the ETA requires close examination.⁶⁵ Conversely, it is interesting to note that the ETO does not omit documents of title, in so far as these are not deeds or instruments pertaining to land or government grants of property. Given that documents of title and documents of carriage are an inextricable part of international commerce, the absence of any international instruments regulating this area and the similar exclusion of such documents from the UNCITRAL Convention⁶⁶ suggests at first sight that there is a lacuna in the ETO. Perhaps this omission is with reference to possible support in Hong Kong⁶⁷ for projects such as the Bolero scheme – an electronic bill of lading that serves as a functional replacement for a conventional bill of lading.⁶⁸ However, the Bolero project exists independently of electronic commerce legislation because it operates by way of the Bolero Rule Book, under which all the parties are contractually bound by digital signatures and the electronic nature of Bolero statements.⁶⁹ Nevertheless, the recognition of an electronic document of title does give credence and support to an important project such as Bolero.⁷⁰

Notwithstanding the exclusion of these matters from the ambit of the ETA and ETO, it is of interest to discuss whether these excluded matters or transactions can be done or concluded electronically. This question was answered in the affirmative by the Singapore High Court in *SM Integrated Transware Pte Ltd v Schenker Singapore Pte Ltd*.⁷¹ With reference to section 4(1)(d) of the ETA, which excluded from its ambit 'any contract for the sale or other disposition of immovable property, or any interest in such property', Prakash J came to the

conclusion that Part II of the ETA, which gives legal recognition to electronic writings and electronic signatures, will not apply. However, Prakash J went on to deal with the issue of whether, *at common law*, an e-mail purportedly concluding a lease transaction can satisfy the formality requirements for writing and signature as required by the Singapore Civil Law Act.⁷² Her Honour came to the conclusion that it does. In relation to the requirement of writing, the court said:

'The aim of the Statute of Frauds was to help protect people and their property against fraud and sharp practice by legislating that certain types of contracts could not be enforced unless there was written evidence of their existence and their terms. Recognising electronic correspondence as being 'writing' for the purpose of s 6(d) of the CLA, would be entirely consonant with the aim of the CLA and its predecessor, the Statute of Frauds, as long as the existence of the writing can be proved.'⁷³

This holding on the part of the court must be correct. Common law courts have already recognised electronic records as writings or documents,⁷⁴ and there is no reason why electronic records cannot also be writings for purposes of the rules as to formalities.

The more difficult issue was that of whether an electronic record can be signed electronically to satisfy the formalities rules. On this issue, the court said:

'I am satisfied that the common law does not require handwritten signatures for the purpose of satisfying the signature requirements of s 6(d) of the CLA. A typewritten or printed form is sufficient. In my view, no real distinction can be drawn between a typewritten form and a signature that has been typed onto an e-mail and forwarded with the e-mail to the intended recipient of that message.'⁷⁵

The court went on to hold that on the facts of the case, even though the officer for the defendant did not

⁶⁵ It is to be noted that there is currently in place in Singapore a legal framework for the electronic lodgment of instruments for land law administration: Wong Peck, 'New Era In Conveyancing: Online Submission Using STARS eLodgement System', *Law Gazette* (September 2003), at 8, available on-line at <http://www.lawgazette.com.sg/2003-9/index.htm>.

⁶⁶ UNCITRAL Convention, Article 2(2): 'bills of exchange, promissory notes, consignment notes, bills of lading, warehouse receipts or any transferable document or instrument that entitles the bearer or beneficiary to claim the delivery of goods or the payment of a sum of money'.

⁶⁷ Bolero, Tradelink – KEB announcement: Bolero partners with Tradelink to provide Hong Kong

exporters with first unified view of all their outstanding Letter of Credit Advices, available on-line at <http://www.bolero.net/news/news.html?article=NTAZNw==>.

⁶⁸ Bolero, Businesses set to benefit by US\$ millions as bolero.net goes live 27 September 1999, available on-line at <http://www.bolero.net/assets/25/Businesses%20set%20to%20benefit%20%20Sept%2019991091552724.pdf>.

⁶⁹ Bolero, Bolero Rulebook (September 1999), available on-line at <http://www.boleroassociation.org/downloads/rulebook1.pdf>. See also Bolero, Legal Aspects of a Bolero Bill of Lading (9 November 1999), available on-line at <http://bolero.codecircus.co.uk/assets/31/legal%20aspects%20of%20a%20bill%20of%20lading1>

[092161487.pdf](http://www.bolero.net/assets/092161487.pdf).

⁷⁰ Though the Bolero Rule Book is governed by English law, the Bolero Rulebook predates the enactment of the UK Electronic Communications Act 2000.

⁷¹ [2005] SGHC 58; [2005] 2 SLR 651.

⁷² Civil Law Act (Cap 43, 1999 Rev Ed), s 6(1)(d).

⁷³ [2005] SGHC at 80.

⁷⁴ *Derby & Co Ltd v Weldon (No 9)* [1991] 1 WLR 652, *R v Governor of Brixton Prison and anor Ex Parte Levin* [1997] QB 65; [1996] 3 WLR 657, *Megastar Entertainment Pte Ltd v Odex Pte Ltd* [2005] 3 SLR 91, *Alliance Management SA v Pendleton Lane P and Anor* [2007] 4 SLR 343; [2007] SGHC 133.

⁷⁵ [2005] SGHC at 91.

appended his name to the bottom of his e-mail message, all his e-mail messages had an originating addressee line that read 'From: 'Tan Tian Tye' tian-tye.tan@schenker.com'. In the opinion of the court, this was sufficient to constitute Tan Tian Tye's signature because '[t]here is no doubt that at the time he sent them out, he intended the recipients of the various messages to know that they had come from him' and that 'his omission to type in his name was due to his knowledge that his name appeared at the head of every message next to his e-mail address so clearly that there could be no doubt that he was intended to be identified as the sender of such message'.⁷⁶

The holding in *SM Integrated Transware v Schenker Singapore* suggests that by virtue of the e-mail header, which contains the e-mail addressing information, every e-mail is 'signed' for purposes of meeting various formalities requirements.⁷⁷ A similar conclusion was reached by a US court in *International Casings Group Inc v Premium Standard Farms Inc*, where the court said that a combination of the e-mail header with the name of the sender coupled with the use of the 'send' button represented the intention of the parties to authenticate and adopt the contents of the e-mails as their own writings, and that was enough to satisfy the requirement of a 'signature'.⁷⁸ Likewise an Australian court in *McGuren v Simpson* reached the same conclusion.⁷⁹ In contrast, the English High Court in *Pereira Fernandes SA v Mehta*⁸⁰ came to the opposite conclusion, that the automatic insertion of an e-mail address in the header is not intended for a signature and that 'its appearance divorced from the main body of the text of the message emphasizes this to be so',⁸¹ and should not be considered as an e-mail guarantee signed under s 4 of the Statute of Frauds 1677.

A learned author has disagreed with this aspect of the reasoning in *Fernandes v Mehta*, particularly as regards the part noted above in quotes, rightly noting that an e-mail header is part of the entire e-mail, and is not

disconnected or divorced from its main body of contents.⁸² Cases interpreting the rules for formalities for signatures in wills and rules in the Statute of Frauds and Statute of Limitations confirm that it does not matter where the signature is applied.⁸³ In fact, the same cases show courts connecting separate but related documents to piece together a signed memorandum of contract.⁸⁴ The fact that e-mail readers hide the e-mail header from most users would not make it any less part of the e-mail itself.

Yet there are undoubtedly decisions that have not gone so far, preferring to meet the statutory signature requirement by finding electronic signatures in e-mail footers.⁸⁵ In this regard, the cases seem to be drawing a distinction between the use of a signature to authenticate the genuineness of the document and its use to authenticate the genuineness of the addressee.⁸⁶ A signature has to satisfy the former to meet the formalities requirements. In *Canton v Canton*, Lord Chelmsford in the House of Lords summarised the jurisprudence on signatures in the Statute of Frauds as follows:

'The cases upon this point cited in the course of the argument establish that the mere circumstance of the name of a party being written by himself in the body of a memorandum of agreement will not of itself constitute a signature. It must be inserted in the writing in such a manner as to have the effect of "authenticating the instrument," or "so as to govern the whole agreement," to use the words of Sir William Grant, in the case of *Ogilvie v Foljambe*, or in the language of Mr. Justice Coleridge, in *Lobb v Stanley*, "so as to govern what follows."⁸⁷

Lord Westbury likewise drew a similar distinction between subscribing a name and having a 'sufficient signature' to satisfy the Statute of Frauds.⁸⁸

This may explain the justification offered by the

⁷⁶ [2005] SGHC at 92.

⁷⁷ Lee Liat Yeang, 'Validity Of Electronic Contracts For Transaction Of Interests In Land' Reporter, Rodyk & Davidson, March 2006, at 4, available on-line at http://www.rodyk.com/publications/rodyk_reporte_r/mar06/index.php?page=property01, who described the decision as 'commercially correct' but advised clients to always include in their e-mail correspondence the phrase 'subject to contract'.

⁷⁸ 358 F Supp 2d 863 (W D Mo 2005).

⁷⁹ [2004] NSWSC 35.

⁸⁰ [2006] 1 WLR 1543; [2006] 2 All ER 891; [2006] 1 All ER (Comm) 885; [2006] All ER (D) 264 (Apr); [2006] IP & T 546; The Times 16 May 2006; [2006] EWHC 813 (Ch).

⁸¹ [2006] 1 WLR 1543 at 1552.

⁸² Stephen Mason, *Electronic Signatures in Law* (Tottel, 2nd edn, 2007), 10.24. See also Stephen Mason (ed), *Electronic Evidence: Disclosure, Discovery & Admissibility* (LexisNexis Butterworths, 2007), 8.40.

⁸³ For example, see *Lemayne v Stanley* (1797) 3 Lev. 1; 83 ER 545, *Johnson v Dodgson* (1837) 2 M. & W. 653; 150 ER 918, *Holmes v Mackrell* (1858) 3 C.B. (N.S.) 789; 140 ER 953, *The First National Bank of Elgin v Husted* 205 N.E.2d 780 (Ill.App.1965).

⁸⁴ For example, see *Saunderson v Jackson* (1800) 2 Bos. & Pul. 238; 126 ER 1257, *Allen v Bennet*, (1810) 3 Taunt. 169; 128 ER 67, *Jackson v Lowe*, (1822) 1 Bing. 9; 130 ER 4, *Johnson v Dodgson* (1837) 2 M. & W. 653; 150 ER 918.

⁸⁵ *Shattuck v Klotzbach* 2001 WL 1839720; 14 Mass L

Rptr 360 (Mass Super, 2001), at 3.

⁸⁶ The ETA, s 2, defines an 'electronic signature' as one 'executed or adopted with the intention of authenticating or approving the electronic record' to which it is attached or logically associated. Unfortunately, the definition appears to conflate the identification function of a signature with the authentication function of a signature. These two separate and distinct functions are more clearly spelt out in the UNCITRAL Model Law on Electronic Commerce, Article 7. See UNCITRAL Model Law on Electronic Commerce with Guide to Enactment 1996, at 37-39. See also UNCITRAL E-Signatures Model Law, at 54 paragraph 120.

⁸⁷ (1867) LR 2 HL 127 at 139.

⁸⁸ (1867) LR 2 HL 127 at 142-143.

courts favouring e-mail footers on the basis that they express the sender's intention to authenticate the contents of the e-mail through his 'deliberate choice to type his name at the conclusion of all e-mails'.⁸⁹ Many of the Statute of Frauds and Statute of Limitations cases can be explained on this basis, that the courts found an unequivocal act in the form of handwriting applied by the party as his acknowledgment of his intention to be bound by the memorandum or promise.⁹⁰ But the cases also show that courts have found signatures in printed address labels or headed notepaper embellished with the party's handwriting,⁹¹ or written correspondence which starts off with the party's name.⁹² The question is whether these can be equated with an e-mail header, which sets out the name of the originator of the e-mail. From a technical perspective, as originally envisaged by the late Dr Jonathan Postel, the architect of the e-mail protocol, the 'From:' component in an e-mail header serves an *identification function* to identify the sender (or more accurately, the source mailbox of the sender).⁹³ But that does not in itself exclude the possibility that it may also serve a *signature function*. The party's act in applying or using the address labels and letterheads, which originally serve to *identify* the originator of the note or memorandum, may confer on these labels and letterheads 'the effect of giving authenticity to the whole instrument'. Thus it has been submitted by a learned author that the act of clicking on the 'Send' button for a properly addressed e-mail, in conjunction with the 'From' line of an e-mail header that acts to designate the sender, amounts to an act of authentication of the entire e-mail and is capable of satisfying the statutory signature requirement.⁹⁴

On the other hand, it is common knowledge that some e-mail client programs allow their users to program the 'From:' field with whatever name that one wishes to send e-mails. As another author noted, 'many people set up their e-mail clients to state their name and e-mail address as part of the setup requirements ... and may not intend for such a feature to be used as personal identification'.⁹⁵ Presumably, the author also

implies that because of their informal usage, e-mails and their headers do not meet the statutory signature requirement.

Which approach is to be favoured may depend on an assessment of the policies that lie behind the formalities rules. In his seminal article, Professor Fuller explained that legal formalities exist to serve three important functions: an evidentiary function (to prove the existence and purport of the document, in the case of controversy), a cautionary function (to give a sense of importance to the transaction and cause the party transacting to take pause before entering into a legal obligation) and a channelling role (to quickly and easily distinguish the legal from the non-legal obligation).⁹⁶ Increasingly, it seems that courts are more prepared to resile from the broad approach as to signatures taken by earlier courts,⁹⁷ and are less prepared to erode the formalities rules.⁹⁸ In fact, echoing the cautionary and channelling functions, courts today stress commercial certainty by discouraging the use of extrinsic evidence to establish a signature.⁹⁹ While typing the name of the signatory or setting up the system to automatically add the name before sending an e-mail is capable of indicating to the recipient that the signatory had the necessary authenticating intention and is capable of satisfying a statutory signature requirement,¹⁰⁰ even the Law Commission in the United Kingdom expressed doubt as to whether that is enough to bring home to the signatory the seriousness of the commitment he is entering into, and to give the signatory the opportunity for reflection before entering into the commitment.¹⁰¹

Ultimately, whether an e-mail is considered 'signed' because of its e-mail header, footer or from the circumstances of its application is a question that depends on whether the fact that 'there the name being generally found in a particular place *by the common usage of mankind* ... may very probably have the effect of a legal signature, and extend to the whole [body of the instrument]'.¹⁰² Bearing in mind that the formalities rules serve as mechanical, non-substantive rules that are designed to substitute for the difficult task of

⁸⁹ *Shattuck v Klotzbach*, 2001 WL 1839720 at 3.

⁹⁰ See the earliest case that decided this matter, *Stokes v Moore* (1786) 1 Cox 219; 29 ER 1137.

⁹¹ *Saunders v Jackson* (1800) 2 Bos. & Pul. 238; 126 ER 1257, *Schneider v Norris* (1814) 2 M & S 237; 105 ER 388, *Touret v Cripps* (1879) 48 LJ (Ch) 567; 27 WR 706.

⁹² *Knight v Crockford* (1794) 1 Esp. 190; 170 ER 324, *Lemayne v Stanley* (1797) 3 Lev. 1; 83 ER 545, *Lobb and Knight v Stanley* (1844) 5 QB 574; 114 ER 1366.

⁹³ Jonathan B. Postel, RFC 821: Simple Mail Transfer Protocol (August 1982), at 3-4, in describing the 'reverse-path' that contains the source mailbox, available on-line at <http://www.ietf.org/rfc/rfc0821.txt>. The source mailbox also serves as the

reverse-path which can be used to report e-mail transmission errors. It is also optional in some circumstances.

⁹⁴ Stephen Mason, *Electronic Signatures in Law* (Tottel, 2nd edn, 2007), 10.25.

⁹⁵ Bryan Tan, Case Note – SM Integrated Transware Pte Ltd v Schenker Singapore (Pte) Ltd, *Digital Evidence and Electronic Signature Law Review*, (2005), 2, 112, 113.

⁹⁶ Lon L. Fuller, *Consideration and Form*, 41 Colum. L. Rev. 799, 800-802 (1941); Stephen Mason, *Electronic Signatures in Law* (Tottel, 2nd edn, 2007), 1.20 – 1.26.

⁹⁷ *Hubert v Treherne* (1842) 3 Man. & G. 743 at 755; 133 ER 1338 at 1342 per Maule J, *Firstpost Homes Ltd v Johnson and Ors* [1995] 1 WLR 1567, 1575

per Peter Gibson J.

⁹⁸ *Caton v Caton* (1867) LR 2 HL 127, at 144 per Lord Westbury; *Vista Developers Corp. v VFP Realty LLC* 2007 WL 2982259, 4-5 (N.Y.Sup., 2007).

⁹⁹ *Firstpost Homes Ltd v Johnson and Ors* [1995] 1 WLR 1567, 1577 per Balcombe LJ.

¹⁰⁰ Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions* (19 December 2001), at 14-15.

¹⁰¹ Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions* (19 December 2001), at 17 (in relation to wills) and 18 (in relation to guarantees).

¹⁰² *Stokes v Moore* (1786) 1 Cox 219 at 223; 29 ER 1137 at 1139 per Mr Baron Eyre.

determining whether, for example, the testator intended to execute the will, or the guarantor intended to make an unconditional promise to pay,¹⁰³ the correct question to be asked is: will the 'common usage of mankind very probably' accept that the use of an e-mail header or footer constitutes a signature that gives authenticity to the whole electronic will or guarantee?

The convenience offered by modern day e-mail clients means that both e-mail headers and footers can be *automatically* applied by the e-mail client program to every outgoing e-mail.¹⁰⁴ As regards the former, lay users seem to set up their e-mail clients with their names and the 'From:' e-mail addresses with little if any regard for the full legal consequences of treating them as 'signatures'. And they make their formal and informal communications from that same e-mail client without regard for the difference between the two.¹⁰⁵ E-mail users in business environments who use e-mail for official communications would appear to operate on the converse assumption. The analogy can be made with the use of printed letterheads by businesses as substitutes for signatures.¹⁰⁶ But current anecdotal evidence regarding general e-mail usage suggests that the fact that one wishes to be identified as the sender of an e-mail does not necessarily imply that one wishes to sign every e-mail, or to authenticate every e-mail with the attendant legal consequences. Furthermore, courts have looked at with some disfavour automatic imprinting of names by machines as indicators of intent to authenticate instruments, on the basis that they do not demonstrate the sender's specific intent to authenticate that transmission.¹⁰⁷ If users choose to use e-mail for their correspondence, there are not too many ways to avoid this consequence. Getting parties to specify in every e-mail that the correspondence is 'subject to contract'¹⁰⁸ just seems too cumbersome. If it could generally be said that e-mail headers are techniques applied 'with no clear intent by the signatory

of becoming legally bound by approval of the information being electronically signed',¹⁰⁹ there will be no approval of the signed record.¹¹⁰ However, in the business environment, the presumptions may be different. Whether or not there are any doubts if the court in *Integrated Transware v Schenker* had applied too low a standard to determine if the e-mail was signed by basing it only on the e-mail header may turn on an evaluation of the context of and the environment within which the particular e-mail is used.¹¹¹ A case-by-case analysis may be required.¹¹²

On the other hand, appending an electronic footer to the e-mail leads to a presumption that the signatory had manifested his intention to authenticate this transmission for purposes of the formalities rules.¹¹³ The corollary can be made with the more modern cases on formalities which approve of the use of stamps as signatures where they are actively applied by the party to the 'signed' document.¹¹⁴ Of course, some e-mail clients also offer the convenience of automatic footers for e-mails. But unlike e-mail headers, this is an optional feature that can be disabled in e-mail clients. Giving e-mail users the clear option to 'sign' their e-mails through an electronic footer reinforces the objective assessment of the sense of importance that users may attach to particular e-mails, and assists in the conclusion that the cautionary and channelling functions of a signature for purposes of the formalities rules have been met.

To sum up, the touchstone in these cases is in an objective ascertainment of the intent of the signatory to authenticate the instrument,¹¹⁵ with regards for the policies behind the formalities rules. This would have provided a more persuasive foundation for the decision of the Singapore High Court in the case of *Kim Eng Securities Pte Ltd v Tan Suan Khee*,¹¹⁶ decided subsequent to *Integrated Transware v Schenker*. In this case, the court found that a remisier had 'signed' his

¹⁰³ Michael Hay, *The E-Sign Act of 2000: The Triumph of Function over Form in American Contract Law* 76 *Norte Dame L. Rev.* 1183, 1204 (2001).

¹⁰⁴ This is unlike the *Statute of Frauds* and *Statute of Limitations* cases, where, as analysed above, the signatures have to be actively applied through writing and stamping.

¹⁰⁵ The e-mail communication in *McGuren v Simpson* [2004] NSWSC 35 was clearly informal in nature, tenor and context but the court held that it was enough to constitute an admission of legal liability to the recipient.

¹⁰⁶ *Brydges (Town Clerk of Cheltenham) v Dix* (1891) 7 TLR 215. But see *Hucklesby v Hook* (1900) 82 LT 117.

¹⁰⁷ *Parma Tile Mosaic & Marble Co., Inc. v Estate of Short* 87 N.Y.2d 524, 527; 663 N.E.2d 633, 634-635; 640 N.Y.S.2d 477, 478-479 (N.Y., 1996). Cf. *Good Challenger Navegante SA v*

Metalexportimport SA (The 'Good Challenger') [2003] EWCA Civ 1668, [2004] 1 Lloyd's Rep 67, at paragraphs 25-26 for a discussion about whether the 'answerback' response generated by a facsimile machine is sufficient to constitute a signature.

¹⁰⁸ Lee Liat Yeang, 'Validity Of Electronic Contracts For Transaction Of Interests In Land' Reporter, Rodyk & Davidson, March 2006, at 4, available on-line at http://www.rodyk.com/publications/rodyk_reporter/mar06/index.php?page=property01.

¹⁰⁹ UNCITRAL E-Signatures Model Law, at 54 paragraph 120.

¹¹⁰ UNCITRAL E-Signatures Model Law, at 54 paragraph 120.

¹¹¹ For instance, in *Integrated Transware v Schenker*, in the final e-mail in the chain of correspondence, there was an assertion of authority by Mr Tan, the

general manager, over his lawyers as regards some provisions in the draft contract. That suggests an officious use of e-mail in which Mr Tan clearly manifesting his intent to conclude the lease. See [2005] 2 SLR 651 at [47].

¹¹² *Vista Developers Corp. v VFP Realty LLC* 2007 WL 2982259, 3 (N.Y.Sup., 2007).

¹¹³ *Rosenfeld v Zerneck* 4 Misc.3d 193, 196; 776 N.Y.S.2d 458, 461 (N.Y.Sup., 2004).

¹¹⁴ *Tourret v Cripps* (1879) 48 LJ (Ch) 567; 27 WR 706, Ex parte Dryden (1893) 14 NSWLR 77. *Goodman v J Eban* LD [1954] 1QB 550, *British Estate Investment Society Ltd v Jackson (HM Inspector of Taxes)* (1956) 37 TC 79.

¹¹⁵ Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions* (19 December 2001), at 13.

¹¹⁶ [2007] 3 SLR 195.

acknowledgment of debt in an e-mail to his principal, who sued him on this e-mail, when he included his name 'Suan Khee' at the end of the e-mail to affirm the various contra losses of his clients.¹¹⁷ (The Singapore Limitations Act requires that all formal acknowledgments of debt be in writing and signed by the person making the acknowledgment).¹¹⁸ However, the court cited, as support for its reasoning, *Integrated Transware v Schenker*, when it was clearly not directly relevant, as the subject matter of the e-mail in question, a contractual debt, did not fall within the list of excluded subject matter. The court could have considered that the legislative object of this formalities requirement¹¹⁹ was to ensure that a person would only be bound by his acknowledgment of debt where his signature is not incidental but unambiguous,¹²⁰ and was one that objectively indicated his approval of the contents.¹²¹ Having regard for the functional equivalence rules in the ETA,¹²² since the e-mail was written in response to a legal request for repayment, the context of the e-mail setting out his debts and the use of the remisier's name at the end clearly constituted an electronic signature that authenticated the remisier's acknowledgment and also satisfied the formalities rule requiring signatures for acknowledgments of debt. This would have been a more satisfactory reasoning than an unqualified application of *Integrated Transware* as an unqualified rule of law.

Even where the functional equivalence rules in electronic commerce legislation do not have direct application to the excluded subject matter in applying the various formalities rules to the digital environment, the common law recognition of electronic records as documents and electronic signatures as signatures may still benefit from an assessment of what constitutes an 'electronic record' and an 'electronic signature' in the ETA and ETO. To the extent that these definitions are based on common law jurisprudence and capture the functional essence of what constitutes a 'record' and a 'signature' for purposes of these policies, courts may still find these definitions helpful and persuasive (though not binding).¹²³ Conversely, simply equating in a mechanistic fashion all marks and identifiers as

'signatures' in the electronic environment without considering the intent of the purported signatory and the legislative object of the formalities rules may actually hinder the certainty and predictability that these rules were intended to bring to commercial transactions.

Electronic records

Both the ETA and ETO have broadly the same definitions of an 'electronic record' and also offer the same broad acceptance of an electronic record as one 'whose informational content is usable for subsequent reference in lieu of writing'.¹²⁴ These provisions are almost identical to Article 9(2) of the UNCITRAL Convention and no changes seem necessary.

Electronic signatures vs digital signatures

Both the ETA and ETO are unique in that they define electronic signatures and digital signatures and distinguish between them.¹²⁵ On the other hand, the UNCITRAL instruments do not expressly distinguish between electronic signatures and digital signatures as a species of electronic signatures. In fact, the UNCITRAL Model Law on Electronic Signatures even goes so far as to state that there has to be 'equal treatment of signature technologies',¹²⁶ arising in part because the approach taken by the Working Group, which seemed to place 'excessive emphasis on digital signature techniques ... [and] third-party certification' 'did not sufficiently reflect the business need for flexibility in the use of electronic signatures and other authentication techniques'.¹²⁷ The emphasis on 'technology neutrality' is with a view to ensuring that legislation is 'not to be interpreted as discouraging the use of any method of electronic signature, whether already existing or to be implemented in the future'.¹²⁸ Such technologies may include biometrics,¹²⁹ and the dynamics of handwritten signatures, symmetric cryptography, the use of PINs, tokens and other factors and even clicking on an 'OK' box.¹³⁰ This 'technology neutral' stance looks set to be increasingly popular.

Yet this does not, and should not, imply that national legislation should be bereft of all and any policies and

¹¹⁷ [2007] 3 SLR 195 at paragraph 51.

¹¹⁸ Singapore Limitations Act (Cap 163, 1996 Rev Ed).

¹¹⁹ Section 27 of the Singapore Limitations Act is derived from the English Limitation Act 1939, s 24, which is in turn derived from the English Statute of Frauds (Amendment) Act 1828. The language of s 27 is very similar to that used in the Statute of Frauds 1677, s 4.

¹²⁰ *Mahtani and Sterling Bureau de Change Ltd v Billington* [2003] EWHC 3127 (QB), [2003] All ER (D) 403.

¹²¹ *Good Challenger Navegante SA v Metalexportimport SA (The 'Good Challenger')* [2003] EWCA Civ 1668, [2004] 1 Lloyd's Rep 67 at paragraph 22. Neither *Mahtani* nor *The 'Good Challenger'* appear to have been cited to the court.

¹²² ETA, s 8: 'Where a rule of law requires a signature, or provides for certain consequences if a document is not signed, an electronic signature satisfies that rule of law.'

¹²³ *Integrated Transware v Schenker* [2005] 2 SLR 651 at paragraph 30.

¹²⁴ ETA, ss 6, 7; ETO, s 5.

¹²⁵ ETA, s 2; ETO, s 2.

¹²⁶ UNCITRAL E-Signatures Model Law, Article 3.

¹²⁷ UNCITRAL E-Signatures Model Law with Guide, at 13 paragraph 19.

¹²⁸ UNCITRAL E-Signatures Model Law with Guide, at 21 paragraph 34.

¹²⁹ Stephen Mason (ed), *Electronic Evidence: Disclosure, Discovery & Admissibility* (Butterworths, 2007), 8.43.

¹³⁰ UNCITRAL E-Signatures Model Law with Guide, at 38, at paragraph 82.

guidance on various implementations of electronic signatures. The UNCITRAL E-Signatures Model Law advises that regulations be issued to fill in the procedural details, and that these regulations should also preserve the process of voluntary technical standards setting, particularly with reference to open standards that will facilitate interoperability and cross-border recognition of electronic signatures.¹³¹ The E-Signatures Model Law even acknowledges that a distinction may have to be made between signatures recognised as retrospectively valid by a trier of fact, and signatures as prospectively valid by parties, organizations or authorities for their purposes.¹³² This is required to ensure certainty and predictability of electronic signatures when commercial parties make use of them, and not at the time when there is a dispute before a court.¹³³

Likewise, the UNCITRAL Convention, clearly drawing upon the duality model as described above in article 6 of the E-Signatures Model Law, would equate an electronic signature that identifies the party and indicates that party's intention in respect of the 'signed' electronic document with its non-electronic counterpart if (a) a reliable method is used as is appropriate for the purpose of the document to establish identity and intention, or (b) the identity and intention are actually proven in fact.¹³⁴ So understood, a properly executed¹³⁵ digital signature is, under the ETA, deemed to be a 'secure digital signature'¹³⁶ and it shall be presumed, under article 9(3)(b)(i) of the UNCITRAL Convention, to be the signature of the person to whom it correlates, and to be affixed by that person with the intention of signing or approving the electronic record.¹³⁷ Likewise, section 6 of the original 2000 version of the ETO would equate a digital signature with a manuscript signature if it is 'supported by a recognised certificate and is generated within the validity of that certificate'. Both the ETA and the then ETO provide examples of ex-ante legally recognised digital signatures as signatures.

However, this does not mean that electronic signatures that are not digital signatures are not legally recognised. Where section 8 of the ETA merely states

that an electronic signature satisfies a rule of law that requires a signature, it states nothing about whether that signature is a reliable signature. Section 8(2) goes on to describe how electronic signatures may be reliable – they may be proved 'in any manner, including by showing that a procedure existed by which it is necessary for a party ... to have executed ... a security procedure for the purpose of verifying that an electronic record is that of such party.' Although its language is not as clear as that of article 9(3)(b) of the UNCITRAL Convention, it is clear that proving an electronic signature in section 8(2) here includes both proof by procedure and proof in fact.¹³⁸ So explained, section 8(2) may be reconciled with the regime for a 'secure electronic signature' as prescribed in Part V of the ETA. Admittedly, however, this is one provision whose language can be improved with reference to the more precise language in article 9(3) of the UNCITRAL Convention and the functional language in article 6 of the UNCITRAL Model Law on Electronic Signatures.

In contrast, the original 2000 edition of the ETO only recognised digital signatures as a valid signatures, which gave rise to concerns that this is a technology-specific approach¹³⁹ that will limit the use of electronic signatures. This was remedied by way of the Electronic Transactions (Amendment) Ordinance 2004,¹⁴⁰ which deleted the original section 6 and replaced it with three conditions:

the signatory uses a method to attach the electronic signature to or logically associate the electronic signature with an electronic record for the purpose of identifying himself and indicating his authentication or approval of the information contained in the document in the form of the electronic record;

having regard to all the relevant circumstances, the method used is reliable, and is appropriate, for the purpose for which the information contained in the document is communicated; and

the person to whom the signature is to be given

¹³¹ UNCITRAL E-Signatures Model Law with Guide, at 34 paragraph 69.

¹³² UNCITRAL E-Signatures Model Law with Guide, Articles 6, 7; See also 35 paragraph 76.

¹³³ UNCITRAL E-Signatures Model Law with Guide, at 58 paragraphs 132-134.

¹³⁴ UNCITRAL Convention, Article 9(3).

¹³⁵ Executed in accordance with the requirement that the digital signature be created during the operational period of a valid certificate and that the certificate is trustworthy. ETA, s 20(a), (b).

¹³⁶ ETA, s 20.

¹³⁷ ETA, s 18(2).

¹³⁸ Chong Kah Wei and Joyce Chao Suling, 'UN Convention on the Use of Electronic Communications in International Contracts – A New Global Standard' at 166, for the view that article 9(3)(b)(ii) is 'likely to swallow the original rule in article 9(3)(b)(i). In our view, it is inconceivable that an electronic signature could be appropriately reliable within the meaning of article 9(3)(b)(i), if it could not be proven in fact to have fulfilled the functions of an electronic signature as described in art 9(3)(a).' It is

submitted that this is an erroneous reading of article 9(3)(b) and fails to appreciate the discussion and work that went into the drafting of its predecessor provision, articles 6 and 7 of the UNCITRAL E-Signatures Model Law.

¹³⁹ Hong Kong Legislative Council Brief - Electronic Transactions (Amendment) Bill 2003 (10 June 2003), ITBB/IT 107/41/1 (03) Pt. 29, at 2 paragraphs 4-5, available on-line at <http://www.ogcio.gov.hk/eng/eto/download/LCBrief.pdf>.

¹⁴⁰ No 14 of 2004.

consents to the use of the method by the signatory.

The new section 6(1) is clearly an improvement over the original section 6(1), because it accommodates electronic signatures in general and digital signatures in particular. However, the third condition – that the person to whom the signature is to be given has to first consent to the use of an electronic signature – seems somewhat difficult to explain. This condition seems to originate from the original section 15(3) of the 2000 edition of the ETO, wherein consent of the recipient is required for the use of a digital signature where an Ordinance requires the signature of the originating signatory.¹⁴¹ The repeal in 2004 of section 15(3) seems to have led to the transfer of this requirement – which, as explained above, is a requirement that preserves the mandatory rules in the Ordinances from party autonomy – to section 6 instead. This condition will clearly lead to practical difficulties in its implementation outside the context of consensual agreements. For instance, if I were to release my software into public domain, and I wish to grant a worldwide licence to this effect, and electronically sign my licence for this purpose, section 6(e) would require me to first seek the consent of the recipient of my licence to my use of electronic signatures. This is clearly infeasible!

Aside from the practical difficulties of meeting this condition, it is respectfully submitted that this condition can only be justified on the basis of public policy, and not otherwise. Surely it is the prerogative (and independent autonomy) of the signer to choose a method for authenticating his document or message. The mode of the signer's signature is irrelevant to the issue of whether the mode chosen can serve to authenticate the signature as the signer's or evidence his intention. To transpose section 6 into the traditional context, it is as if the law states that I may only sign my document in red fountain ink on green paper if the recipient of my document so consents. It is questionable that the law should constrain the expression of my identity and my intention. The only possible explanation is that there may be difficulty in discerning and validating such a signature. For instance, it may be proportionately expensive, administratively cumbersome or computationally complex to validate a person's digital signature.¹⁴² Hence if prior consent has to be first sought from the recipient of the electronic signature, this is clearly an issue of policy rather than of

form. But if the mode of signature is characterised as a question of form rather than policy, autonomy should properly be granted to the signer.

Public key infrastructure

One common characteristic of the ETA and ETO is the detailed provisions in both legislations regarding the duties of subscribers and certification authorities.¹⁴³ Both the ETA and ETO adopt a voluntary licensing model for certification authorities. Thus both legislations are replete with provisions pertaining to the regulation of licensed certification authorities.

There is much force in the observation that these are matters that are best dealt with in subsidiary legislation rather than in enabling primary legislation. In particular, the rules should be described in functional rather than in operational and technical terms,¹⁴⁴ as this will best enable the overseer of certification authorities to craft suitable administrative and technical rules to deal with these issues, and also to rapidly and easily revise these rules to bring them in line with best international and industry practices and standards. This is so especially since public key infrastructure remains, as is any internet technology, subject to security and cryptographic challenges as to its reliability and integrity.

New and unresolved issues in electronic transactions

The ETA and ETO are pioneering electronic transactions legislations that paved the way for other national legislations and a better understanding of e-commerce issues. The rest of the ETA and ETO embody general contractual rules as to form such as contract formation¹⁴⁵ and ascertaining the time and place of dispatch and receipt of messages.¹⁴⁶ These rules are generally uncontroversial.

However, in one respect, the issue of attribution of messages to the originator remains a difficult one. As explained above, the issue of attribution is a mixed issue of form ('Did the message come from the originator?') and substance ('Am I entitled to act on the message, assuming that it came from the originator?'). This issue is not capable of easy resolution and the UNCITRAL Convention has wisely left it to national legislation to grapple with the issue. It is this author's submission that because this is an issue that depends

¹⁴¹ For example, see Hong Kong Legislative Council Panel on IT & Broadcasting – Review of the Electronic Transactions Ordinance (5 Nov 2002), at 5 paragraph 12, and 6-7 paragraph 16(b).

¹⁴² Stephen Mason, *Electronic Signatures in Law*

(Tottel, 2nd edn, 2007), 14.14 – 14.16; Wikipedia, *XML Signature*, available on-line at http://en.wikipedia.org/wiki/XML_Signature.

¹⁴³ ETA, Parts VII to X; ETO, Parts VI to XI.

¹⁴⁴ UNCITRAL E-Signatures Model Law with Guide, at

14 paragraph 20.

¹⁴⁵ ETA, s 11; ETO, s 17; UNCITRAL Convention, Article 11.

¹⁴⁶ ETA, s 15; ETO, s 19; UNCITRAL Convention, Article 10.

on the content of the delivery of messages, it is best left to specific legislation for individual treatment.

One new substantive issue which the UNCITRAL Convention has sought to deal with is the issue of error in electronic communications.¹⁴⁷ This issue is not dealt with in either the ETA or the ETO. It is in effect couched as a rule of form that requires parties offering automated messaging systems such as shopping web fronts to provide natural persons, usually consumers, the right to withdraw orders that they have made arising from input errors. This rule is clearly to be welcomed, particularly where it seeks to standardize electronic commerce practices by vendors, and presents consumers with a uniform and non-contentious way to withdraw from transactions which they would not have otherwise entered into had they known of the input mistake. It also avoids the difficult and intractable case law in the area of unilateral mistake (as applied to consumers making mistakes), which often leaves contracting parties in a greater state of uncertainty.¹⁴⁸ After all, parties offering automated messaging systems are better placed to design systems that will minimise input errors made by their customers, and this will further build greater confidence in their business systems. The enactment of this provision is highly recommended for the ETA and ETO.

Conclusions

As this short review shows, there is work ahead for both Singapore and Hong Kong in the area of electronic transactions legislation. The recently concluded UNCITRAL Electronic Contracting Convention offers a good reason and justification for a review of existing legislation. There is a need to keep up with technological developments, particularly with the greater acceptance of other forms of electronic

signatures. There is today a better understanding of the functions of electronic records and electronic signatures, and a deeper appreciation of the interaction between electronic transaction rules and mandatory rules, through greater social and consumer acceptance and use of electronic technologies and electronic government. And with greater usage comes issues of risk such as input mistakes that are peculiar to the electronic environment. All these issues have to be dealt with.

Singapore and Hong Kong are pioneers in the area of electronic transactions legislation. But being pioneers does not mean that there should be no further reform in our laws. In an area as dynamic as information technology, one can do no better than to quote from Issac Asimov, who said, 'The only constant is change, continuing change, inevitable change, that is the dominant factor in society today. No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be.'¹⁴⁹ So it is only apt that our electronic transactions legislations be changed, to keep up with the ever changing information technology landscape.

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Daniel Seng is a member of the editorial board.

¹⁴⁷ UNCITRAL Convention, Article 14.

¹⁴⁸ *Chwee Kin Keong v Digilandmall.com Pte Ltd* [2005] 1 SLR 502 (C.A., Sing.). See also Andrew Phang Boon Leong 'Contract Formation and Mistake In Cyberspace – The Singapore Experience' (2005) 17 SAcLJ 361, available online at [http://www.lawnet.com.sg/lrweb/c/portal/layout?p_l_id=1&DEEP_URL_LINK=http://www.lawnet.com.sg/lrweb/search.do?modName=LP2\(10wa\)catCd=25\(10wa\)subaction=lrLp2VieCaseDetail\(10wa\)ncit=\[2005\]%20SAcLJ%2010\(10wa\)lrPortletId=lp2rm](http://www.lawnet.com.sg/lrweb/c/portal/layout?p_l_id=1&DEEP_URL_LINK=http://www.lawnet.com.sg/lrweb/search.do?modName=LP2(10wa)catCd=25(10wa)subaction=lrLp2VieCaseDetail(10wa)ncit=[2005]%20SAcLJ%2010(10wa)lrPortletId=lp2rm) (subscription required) and at <http://www.sal.org.sg/digitallibrary/Lists/SAL%20Journal/DispForm.aspx?ID=363> (subscription required); Yeo Tiong Min, 'Great Peace: A Distant Disturbance', (2005) 121

[http://www.lawnet.com.sg/lrweb/search.do?modName=LP2\(10wa\)catCd=25\(10wa\)subaction=lrLp2VieCaseDetail\(10wa\)ncit=\[2005\]%20SAcLJ%2010\(10wa\)lrPortletId=lp2rm](http://www.lawnet.com.sg/lrweb/search.do?modName=LP2(10wa)catCd=25(10wa)subaction=lrLp2VieCaseDetail(10wa)ncit=[2005]%20SAcLJ%2010(10wa)lrPortletId=lp2rm) (subscription required) and at <http://www.sal.org.sg/digitallibrary/Lists/SAL%20Journal/DispForm.aspx?ID=363> (subscription required); Yeo Tiong Min, 'Great Peace: A Distant Disturbance', (2005) 121

L.Q.R. 393.

¹⁴⁹ In 'My Own View' in Robert Holdstock, ed, *The Encyclopedia of Science Fiction* (Octopus Books, 1978); later published in Asimov on Science Fiction (1981), various references available online at http://en.wikiquote.org/wiki/Isaac_Asimov, <http://www.geocities.com/wisdomforthesoul/categories/change.html>.